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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,650	02/22/2002	Frank Gottwald	10191/2199	8172

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KENYON & KENYON
ONE BROADWAY
NEW YORK, NY 10004

[REDACTED] EXAMINER

ALSOMIRI, ISAM A

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

3662

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/080,650	GOTTWALD ET AL.
	Examiner	Art Unit
	Isam A Alsomiri	3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 April 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,3-8,17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,3-8,17 and 19-23 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5-6, 17, 19, and 21, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinckley Jr. in view of Emi. Referring to claims 1 and 17, Hinckley discloses in figure 1 transmitting signals with a carrier frequency, transmitting the signals as pulsed signals with a pulse repetition frequency, and varying the pulse repetition frequency during operation of the radar device (see Abstract). Hinckley does not teach varying the carrier frequency during operation of the radar, Emi teaches changing a carrier frequency during operation (see Abstract, and col. 5 lines 2-6). It would have been obvious to modify Hinckley's system to further include varying the carrier frequency to suppress interference from other devices and reduce false alarms.

Referring to claims 3 and 19, Hinckley teaches varying the pulse repetition frequency, and using a software waveform control algorithm to vary the pulse repetition frequency. The criteria for selecting a pulse repetition frequency depend on the application, which reads on the claimed the pulse repetition frequency is varied deterministically (see Abstract, and col. 3 lines 57-67).

Referring to claim 11, Hinckley teaches varying the pulse repetition frequency, and using a software waveform control algorithm to vary the pulse repetition frequency. The criteria for selecting a pulse repetition frequency depend on the application, which reads on the claimed the pulse repetition frequency is varied deterministically (see Abstract, and col. 3 lines 57-67).

Referring to claims 5 and 21, Emi teaches changing the carrier frequency by phase modulation (see col. 4 line 65 – col. 5 line 6).

Referring to claim 6, Emi teaches changing the carrier frequency (see col. 4 lines 65 – col. 5 line 6), Emi teaches signals can be transmitted by frequency modulation (see col. 2 lines 56-60). Therefore, it would have been obvious to change the carrier frequency by (FM) frequency modulation because it is known and only requires the knowledge of one skilled in the art.

Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinckley Jr. in view of Emi and Alitz. Referring to claims 4 and 20, Hinckley does not teach varying the pulse repetition frequency chaotically, Alitz teaches utilizing random pulse repetition frequency, which reads on the claimed varying chaotically (see Abstract). It would have been obvious to modify Hinckley's system to vary the pulse repetition frequency chaotically to eliminate the possibility of interference from other devices in close proximity.

Claims 7-8 and 22-23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinckley Jr. in view of Emi and Charlot. Referring to claims 7 and 22, Hinckley does

not teach varying the carrier frequency during operation of the radar, Emi teaches changing a carrier frequency during operation (see Abstract, and col. 5 lines 2-6), Emi teaches signals can be transmitted by frequency modulation (see col. 2 lines 56-60). It would have been obvious to modify Hinckley's system to further include varying the carrier frequency by (FM) frequency modulation to suppress interference from other devices and reduce false alarms. Hinckley teaches producing an intermediate frequency, Hinckley does not teach a virtual intermediate frequency by mixing the received signal and modulated carrier frequency, Charlot teaches a virtual intermediate frequency by mixing the received signal and the modulated carrier frequency (see figure 1, Abstract). It would have been obvious to modify Hinckley's system to further include the virtual intermediate frequency to extract the desired signal spectrum for analyzing.

Referring to claims 8 and 23, the combination of Hinckley and Emi teaches varying the carrier frequency as mentioned above. The combination does not teach varying the carrier frequency by a sudden frequency change method, Charlot teaches randomly changing the carrier frequency, which reads on the claimed varying the carrier frequency by a sudden frequency change method (see col. 1 lines 15-26). It would have been obvious to modify the combination of Hinckley and Emi to further include changing the carrier frequency by a sudden change method to minimize the interference and the distortions.

Response to Arguments

Applicant's arguments filed April 30 2003 have been fully considered but they are not persuasive. Regarding claims 1, 3-4, 17, and 19-20, applicant has amended the independent

claims 1 and 17 to include the step of varying the carrier frequency during operation of the radar device. Therefore, the 102(b) rejection has been withdrawn.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, applicant argument regarding claims 2 and 18 which has been cancelled and incorporated in the base claims (1 and 17), applicant argues that the Emi reference relates to a frequency hopping communication method and device, especially to sequentially changing carrier frequency of transmitted data according to a frequency hopping spread code list. The Emi reference does disclose how such a frequency communication method could be applied to a doppler radar. Therefore, there is no motivation to modify the radar device disclosed in the Hinckley reference by varying the carrier frequency during operation of the radar device.

Response: the Hinckley reference and the Emi reference are related arts (analogous arts), because the Emi reference deals with signal transmission and suppressing interference (see col. 1 lines 26-39). Just because Emi reference does not deal with a radar system does not mean the both reference cannot be combined. The teaching of Emi to vary the carrier frequency during the operation of the system as mentioned in the office action is to suppress interference from other unwanted signals, which is the same reason why the applicant's invention varying the carrier frequency. Furthermore, both references are related in that sense, and changing the carrier

frequency in communication or radar systems are similar as far as transmission or signals processing.

Applicant also argues that the suggested modification (Hinckley and Emi) would fundamentally alter the original principle or operation of the combined references. *Response*; the original principle of operation of the combined reference is to modify Hinckley to vary the carrier frequency to suppress interference as in Emi. The idea is to suppress interference from unwanted signals and noises, therefore, the original principle is not altered.

Applicant argument regarding claims 7-8 and 22-23, applicant argues that Charlot reference does not teach or suggest any motivation to combine the applied reference. As mentioned above the motivation can be found either in the references themselves or in the knowledge generally available to one skilled in the art. Applicant did not show why the combination of Hinckley, Emi and Charlot is improper.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam A Alsomiri whose telephone number is 703-305-5702. The examiner can normally be reached on Monday-Thursday and every other Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-306-4171. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-9326 for regular communications and 703-305-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Isam Alsomiri



July 13, 2003



THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600